JANUARY 2022

AS WE ENTER 2022, I THOUGHT I WOULD SHARE SOME THOUGHTS on how we are viewing the world today, with a focus on two very big risks against which we are looking to protect the portfolio, while also capitalizing on them (where we can). In addition to this letter, we will also be sending our normal quarterly and annual reports in the next few weeks.

"Those who do not remember the past are condemned to repeat it."
—GEORGE SANTAYANA

Throughout history, countless people have commented on some version of the above quote, noting how "amazing" it is that history always repeats itself (or "rhymes" (1) with itself, etc.). What I find even more amazing is how many more people argue that not to be the case, especially in the midst of it happening. Today's environment sparks that reaction across two important dimensions, each of which present risks and opportunities as we look ahead.

The S-word(2)

This first is the loose monetary policy of the Federal Reserve (and central banks globally) alongside the money printing necessary to support profligate governmental fiscal policies, potentially leading to a 1970s-style stagflation environment. To paraphrase Margaret Thatcher on socialism, there is no limit to the number of dollars populist politicians (from either side of the political spectrum) will spend to buy a vote today.

To be clear, we are not macro investors(3), but regardless, we pay attention to what is developing on this front and form views of the possibilities (again, with no specific view on degree or timing) either to inure the portfolio against those scenarios, avoid exposing the portfolio to them altogether, or create opportunities to exploit volatility caused by them.

Based on our current trajectory, I do not see how we will avoid a 4% yield for the US 10-year on the back of inflation that continues to escalate. The Fed and other major global monetary authorities continue to lag economic reality, which is exactly what you do not want when you are trying to manage not only inflation, but more importantly, the expectation of inflation.

In spite of this, developed market governments globally – whether left or right – continue to pursue policies that are interfering in the natural process by which markets price risk, and this creates ever-greater distortions of the ilk that we worry about, but also that we can exploit.

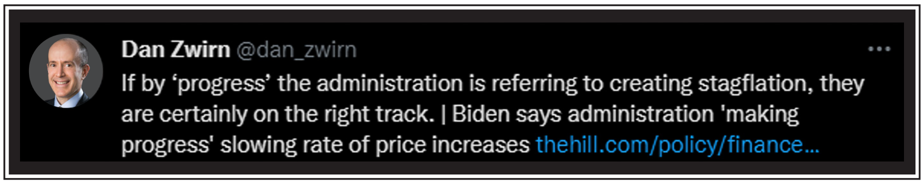
Generally speaking, today's dynamic presents one of the weakest prospects I have seen in my 26-year investing career. The closest analog would be the policies of the late 1960s, which led to the 1970s stagflation environment. In today's world, we see the same domestic and international level of fiscal over commitment with a

(1) Referencing the famous Mark Twain quote, "History doesn't repeat itself, but it often rhymes".
(2) Stagflation!
(3) And frankly, very few investors have demonstrated a long-term ability to accomplish this successfully.

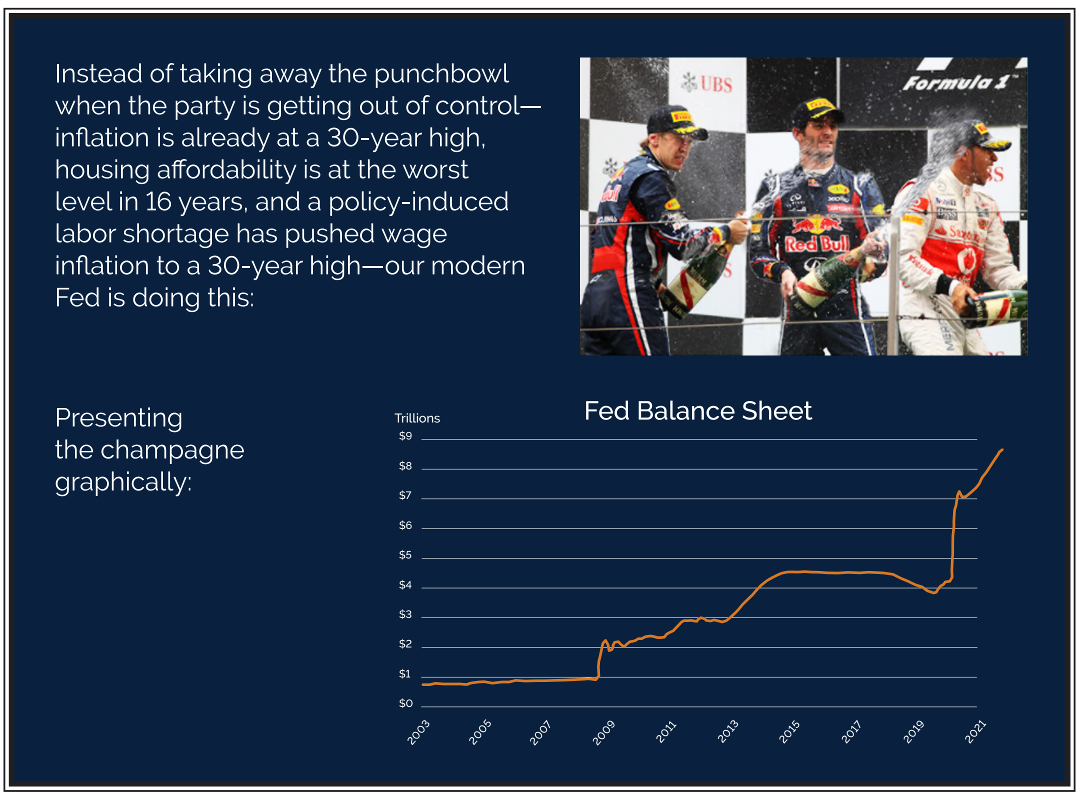
weaponless Fed (with rates close to zero, and therefore much more "ammunition" to tighten than to ease) and having to face the harsh realities of their being far too accommodative for far too long.

To add to the mix, while what we are experiencing today has happened before, very few people operating today were senior enough then to have managed through that environment[4]. Given that lack of direct experience navigating through a high inflation environment, everything happening today is naturally underappreciated by policy makers and the markets.

That said, the datapoints continue to present themselves. For starters, while now a banal observation, the price of everything is rising, with the December CPI report exceeding 7% year-over-year and being the highest increase since 1982. In the detail of the December report[5] you see that every category and subcategory of the report was positive. Biden's public remarks following the report[6], noting that the administration is "making progress in slowing the rate of price increases," could only prompt me to think:



One of the more animated writings recently came from Pantera Capital's November 9th Blockchain Letter[7] where they point to the higher prices of everything (outright and relative to paper money) but also describe the Fed's approach with the following meme, which I thought was entertaining:



(4) Ian Delaney, the Chairman of Arena's parent company, The Westaim Corporation, is one of those few people, and a valuable advisor, as we worry about the seeds that we now see sprouting.
(5) https://www.bls.gov/news.release/pdf/cpi.pdf
(6) https://thehill.com/policy/finance/589385-biden-says-administration-making-progress-slowing-rate-of-price-increases
(7) https://panteracapital.com/blockchain-letter/sound-money/

And we are only a "Joe Manchin/Kyrsten Sinema heartbeat" away from a very big problem. Their stand not only against the outrageous additional proposed federal spending but also measures that would otherwise destroy the Senate's ability to mitigate the baser instincts on the extremes of each side is a very tenuous barrier to some ugly potential scenarios. Madison and Jefferson designed our government to mitigate the corrosive effects of a mix of party politics and majoritarian tyranny. We are fortunate to have at least two of 535 legislators who seem to have an awareness of that fact.

Accordingly, it is also not a coincidence that a number of assets that create no cash flow are appreciating spectacularly – from bitcoin to NFTs to artwork(8) – which is only another measure of the lack of confidence in government and fiscal policies. If one looks back at hundreds of years of financial history – when a government debases a fiat currency, it eventually creates a panic where wholesale selling happens. Why? Because either monetary policy is brought to bear to "pop the bubble" and force the appropriate pricing of risk (*e.g.*, Volcker 1.0), or citizens start bringing a wheelbarrow to the market to pay for bread (*e.g.*, Weimar Germany or modern Turkey, Venezuela, Argentina and Zimbabwe, to name but a few).

Some of that selling (or loss) also results from the sudden "recognition" of economic reality that should have been apparent all along. As one big example, in today's world there is a tremendous correlation between the size of an asset(9) (with more and more money needing to find return), and improperly priced capital (the magnitude of which only continue to grow).

One poster child will be the reckoning in middle-market private equity and credit. Experiencing the perfect storm of rising cashflows, rising multiples, and decreases in both yields and spreads, the asset class has enjoyed very good performance since the 2008 financial crisis. Though no manager (and few investors) will attribute that performance to those market-driven dynamics, even fewer will say, "what works on the way up doesn't work on the way down." As an example, in a simple LBO model which assumes a current risk-free rate of 1% and 4.5% spread (5.5% cost of debt), a 12x purchase price (with the same assumed exit multiple over 5 years), financing at 8x, and with 2% projected EBITDA growth, the levered equity return would be 16.8% (10.5% unlevered). In an even modest downside scenario, if the exit multiple went down to 10x, risk-free went up by more than 200 basis points, and credit spreads went up 200 basis points, you are eerily close to wiping out the entire equity return. It is not an investment that we would describe as having any margin of safety(10).

It is all a potentially ugly picture of a financially violent world to come. For our investors (and our own capital, invested alongside our clients), Arena has sought to maintain discipline. Given our enterprise design, we have the ability to operate in smaller-sized transactions that do not have access to the over enthusiastic money of asset gatherers. Given our mandate flexibility, we have never had to "hold our nose" to make investments that are ever worsening in appeal but are still somehow deemed acceptable based on a cherry-picked measure of relative value. We seek alignment across all stakeholders for added protection. For our investments, we stress optionality and protection, emphasizing the characteristics we would recommend more broadly in this environment – being highly diversified across a pool of investments where we are secured by assets that produce cash flow, with floating interest rates (or otherwise hedged), and with short duration. And where available, we are increasingly keen to layer in cheap optionality through the form of synthetic puts and other spread trades that cost little in premium, but which we expect will be inversely correlated to the rest of the portfolio if there is a significant downward shock.

The Great Rationalization

Piggybacking on the inflation topic, we are also well into an incredible asset valuation mania generally – and whether it most resembles the dot com boom, the tulip mania, or something else, I won't speculate, but to the earlier Mark Twain quote, it rhymes.

This second big risk, that of the speculative bubble in new technologies generally, is one we are calling the "Great Rationalization".

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(8) It appears some of these may be taking "anti-inflation market share" away from gold.
(9) And "perceived safety — e.g., securities carrying investment grade ratings.
(10) And introduces other risks – e.g., the idea that lenders should be more comfortable with sponsored deal. How is the sponsor likely to act in the scenario where they are out of the money, but the debt is in the money?

Whether you are talking about biotechnology, automation, electric vehicles, internet of things, space tech, retail 2.0, or web 3.0, etc. – it is hard to imagine these technologies not being disruptive. In fact, whether it is railroads displacing canals, the auto industry displacing horses and the railroads, the telephone displacing telegraphs, the more recent example of "new energy" versus the hundreds of billions that has been destroyed in oil and gas exploration, or any other major technological revolution in history, such a dynamic has always been the case. However, what has also been the case is that these disruptions follow a common pattern – they are overfinanced (almost always in periods of easy money), the capital is overspent relative to the market opportunity (often with insiders and related parties also overpaying themselves), there is a crash (usually brought on by a downturn that includes the tightening of interest rates), and then there is an eventual consolidation into a much smaller number of companies that have the appropriate economics (usually spanning many decades).

In *Engines That Move Markets*, by Alasdair Nairn (originally published in 2000 and updated in 2018), there is considerable historical research into many such case studies:

- the British railway boom of the 1840s
- the corollary boom (and bust) in the United States
- the auto industry
- the electric light
- the early discovery and development of crude oil
- the emergence of the telegraph business
- wireless, radio and TV
- mainframes and the growth of the computer industry
- the PC battles of the 1980s
- and the internet bubble of the 1990s

As mentioned, in each case, the new technology disrupted an old one. But in reaching that point, they were over-financed relative to their actual ongoing prospects – *e.g.*, $300 billion of today's dollars going into the British railroads in the 1840s, more than 100 telegraph companies being formed in the late 1870s, more than 1,700 telephone companies being formed in the 1880s (even when Bell Telephone had a patent on the invention itself), there being 80 major producers of automobiles in the first decade of the 20th century (when there were barely more than 100 cars sold annually), etc.

And as Nairn notes, "Almost without exception, all periods of speculative excess in financial markets are assisted by easy money and brought to an end when interest rates start to rise once more."

Nairn also describes the classic dynamic whereby the first entrants take advantage of the most obviously lucrative investments, typically where there is no competition in place. But when these opportunities are quickly exhausted, the subsequent entrants seek to develop new markets with either more competition, or with business cases that are otherwise less certain. However, "by this time investors typically [are] less sceptical [sic] on prospects and funding [is] relatively easy to obtain" and "when investors [are] in a period of optimism typically associated with general prosperity, new ventures [are] put forward, many of which [lack] the compelling logic of their predecessors." And further, "the proprietors and promoters of some of these companies [fall] into the unscrupulous category and to the extent that supervision of their activities [is] less than vigilant, or the law [is] open to abuse, the companies quickly [become] vehicles for private speculation and personal advancement."

Rhyming a bit so far?

These booms end, typically with swift and massive destruction of invested capital followed by decades of underperformance for those left holding the bag, and then eventual consolidation into a much smaller number of companies that have the appropriate economics – *e.g.*, 100 telegraph companies becoming one (Western Union) – where those that are positioned for the "clean-up" (*e.g.*, rescue financing, asset liquidations, mergers, etc.) end up quite fortunate (*e.g.*, when J.P. Morgan took control of AT&T in 1907 on the basis of $130 million of financing, or when he took control of Northern Securities railroad in 1902, the subject of the 2020 book by Susan Berfield entitled *The Hour of Fate: Theodore Roosevelt, J.P. Morgan, and the Battle to Transform American Capitalism*).

Case Study: The Railroads

To demonstrate the rhyming/repetition in more detail, here is a brief case study of the American railroads. In his book, *The Great Railroad Revolution: The History of Trains in America*, Christian Wolmar starts by saying "America was made by the railroads …. Quite simply, without the railroads, the United States would not have become the United States … stimulating the economic growth that would eventually make America the most powerful nation on earth." The quote makes a pretty strong case for an innovation that was beneficially disruptive.

He traces the history of railroad development, noting that in its beginning, the public went "from harboring doubts about the railroads," citing numerous examples where injuries, deaths and other calamities were sustained by passengers (and those that built the infrastructure), to the point where "suddenly everyone wanted to be connected to the railroad." But then, how the "plucky innovator, the new kid on the block bringing prosperity and opening new horizons … became the established but respected business … [and then eventually turned into being] reviled by almost everyone." (11)

The story of the railroads, as Wolmar writes, is really the story of numerous innovations, all needing to come together over the course of its history – *e.g.*, a power source other than animals to pull the trains, the technology for the traction and the tracks, and even the telegraph to provide a communication device for railroads to operate simultaneously without trains crashing into each other given frequent delays, labor stoppages, and track repairs.

The early days of the railroads were plagued with a lack of capital for businesses that required high levels of investment and were otherwise unprofitable (and in the early days, investors were doubly skeptical whether the technology was sufficiently developed to begin with). That lack of capital lead to "innovations" in finance – in the case of railroads that also involved governmental assistance, both by providing actual capital, but also in crafting regulations which allowed the railroad companies to obtain capital more easily, numerous and sizable tax exemptions, and the practice of "eminent domain" in order for the companies to secure whatever land was needed to develop the railroads ("at a fair price"). As one example of favorable regulations, the State of Illinois General Assembly approved an Act for the construction of a railroad from Jacksonville to Alton in February 1851 that gave the Jacksonville and Carrolton Railroad Company (in addition to eminent domain) the ability to issue bonds and stock with any maturity date, interest rate, secured or unsecured and with unilateral bankruptcy resolution rights for the company versus its creditors(12).(13)

In terms of private capital, with no near-term practical business case to be made, Wolmar noted, "The key to [success] was the selling of the railroad … given the need to persuade local people to invest … like all good marketing people, they instilled in the public's mind the perception of a need where there had never been one before." Wolmar also notes the slogan of the railroads being seen "as democratic, a way of improving the lives of all those who traveled on them." Indeed, using the slogan "democratizing ______" to promote the prospect of future growth is a strategy that is at least ~200 years old.

Railroaded: The Transcontinentals and the Making of Modern America (a finalist for the Pulitzer Prize written by Richard White in 2011) tells multiple tales of how railroad companies "successfully observed rule number one of building transcontinentals – put little or no money down – and … rule number two: negotiate among yourselves." Insiders and related parties made a killing by "charging far more to build the railroad than the road actually cost" and whether it was the example of the Pacific Railroad in 1865, the Union Pacific in 1868 (which had a crushing debt load but where financiers and insiders made between 480 and 750 percent), or the Pennsylvania Railroad of 1873 (which featured "bloated securities with a face value much higher than what [owners] had paid for them or could sell them"), "story telling" combined with "the giving away of stock, the selling of bonds at deep discounts, and insider contracts for construction – virtually ensured that these roads' capitalization was far in excess of their assets." And to touch on the so far small but emerging topic of what is likely incredible amounts of fraud and deception lurking in today's capital markets (only a whiff of which has thus far come to light in cases like Luckin Coffee or Direct Lending Investments, LLC), *The Men Who Loved Trains* (written in 2006 by Rush Loving Jr.) makes the connection (of many possible ones) between Penn Cen-

(11) This reminds us of the FAANGs.

(12) *Saint Louis, Jacksonville and Chicago Railroad Consolidation of the Tonica and Petersburg, and Jacksonville, Alton and Saint Louis Railroads*, Forgotten Books ©2018

(13) This reminds us of Elon Musk and the government subsidies that built Tesla, SpaceX and The Boring Company.

tral Railroad's accounting scandal in 1970, the way it was mishandled by regulators, and it sowing the seeds for the Enron debacle. We imagine that many more analogs are brewing under the radar today.

In addition to the railroads paying high (and unsustainable) dividends in order to create the illusion of solidity, there was also a virtuous cycle that was created by them – as a new railroad was built, the local people enjoyed increases in their land values. Agricultural land increased in value because farmers could reduce their costs and time to deliver produce to markets. Other nearby land and housing values were boosted because the ease of connection to other places made those areas more attractive to settle in. This in turn supported shops and light industry. And that growth encouraged further development and also benefitted the local authorities as tax revenues increased. As Wolmar put it, "There seemed to be no downside. Everyone was a winner." And seemingly worthless land became highly prized in the process.

Like other historical corollaries, the number of companies created to support all the direct, indirect, and beneficiary development of the railroads exploded in number, and, in an effort to differentiate themselves, longer-term mistakes were made that would eventually be extremely expensive (but necessary) to remedy – for example, each railroad choosing different gauges(14) but then not being able to connect with one another at geographic termination points.

The mania of the 1850s would eventually begin to erode (Nairn notes that by the mid-1870s almost 40% of American railroad bonds were in default), and then there was collapse in the financial panic of 1893. Entering the depression that followed the 1893 panic, Albro Martin, in *Enterprise Denied*, noted the railroads were "overbuilt, financially undernourished, divided into hundreds of poorly integrated corporate entities, and riddled with rate wars which reduced the profits of the best-situated roads drastically and drove the weaker ones to the wall of bankruptcy (15)." While the original investors were significantly impaired (or wiped out), this period brought the entrance of the railroad "robber barons" like Daniel Drew, Cornelius Vanderbilt, Jay Gould and Edward Harriman. In *Railroaded*, White provides anecdotes of how those that entered the consolidation phase, like Jay Gould in acquiring the Kansas Pacific in 1880, were able to step in and take out creditors at rates as low as 30 cents on the dollar. As railroads went insolvent in this period, bankers like J.P. Morgan were often the only option available, where Morgan built a fortune in the reorganizing and refinancing of the railroads. Countless other examples presumably also accrued to those on the advantageous side of the trade during this phase of illiquidity. In the case of the railroads, the scale of the mess was so great the government ultimately had to step in to reorganize and take control. In the initial governmental phase of consolidating the number of railroad companies from ~200 to 19, the Interstate Commerce Commission pointed to the fact that "a large amount of mileage is in the hands of corporations, which, in a financial sense, may be denominated chronically weak [owing to] … disadvantageous location, unwise investment or administration, an unwieldy financial structure, or even downright impairmant [sic] of capital by waste or fraud(16)."

How Arena Positions Itself

Today there are several areas of the market that look eerily familiar to these past examples. Any investor considering the latest pitch for crypto, EV, metaverse "real estate", or NFTs (the list goes on) would do well to consider the many examples history provides. Warren Buffett noted in the 2021 Berkshire annual meeting that over 2,000 car companies in the US became three (two of which then went bankrupt), and very few people are going to actually pick the winners(17). Nairn's book actually makes the case for betting against the losing technologies as being a better investing strategy, saying eloquently that:

> *if by chance you had been able to identify the genius of Henry Ford at an early stage it would have been important to wait until he had been bankrupt twice before investing in his third venture, Ford Motor Company. Or in the case of General Motors, you would have needed to twice avoid the acquisitive excesses of Durant … For the personal computer age one would have to wait for Apple to appear, but remembered to exit before Microsoft attacked the space; to understand the dynamics of IBM and the coming of Compaq, but be ready for the arrival of Dell!*

(14) The distance between tracks
(15) And those that survived were rebuilt and then were eviscerated in the 1929 stock market crash and ensuing depression. One calculation cited by Wolmar suggests that in the 1920s alone, railroad companies spent as much during as their entire prior history in improving their lines.
(16) *Consolidation of Railroads*, William Zebina Ripley, Cornell University Library, originally published in 1921.
(17) https://www.rev.com/blog/transcripts/warren-buffett-berkshire-hathaway-annual-meeting-transcript-2021

This would have meant ignoring hundreds of other competing companies that grabbed the headlines and market share during the early years. In the case of Apple, the investor would later have needed to decide when and how to buy back into the company's share in anticipation of the extraordinary success of the iPhone. (pgs. 522-523)

For Arena, our Great Rationalization playbook has a little different flavor. It is simple to articulate yet very laborious to implement (and hence hard to replicate). While only one of many potential opportunity sets for Arena, for the last several years we have been involving ourselves in a wide variety of the companies (across biotech, fintech, electric vehicles, etc.) where, like everything we do, we look for convexity in our exposures – *i.e.*, how we can position our capital such that if it works out it will be great, but if it doesn't, we still end up doing very well. As an example, through structured private convertibles, we are able to effect privately negotiated stock offerings in public companies where we can effectively purchase stock at a discount and crystallize that spread without exposing our capital to the company's underlying business plan (at rates that are competitive with everything else we do), while also participating in more upside (through out-of-the-money warrants) should those companies achieve great success (or the market perceive that to be the case). In doing these offerings (and other hard asset-secured loans or related forms of finance where we set ourselves up to be indifferent between taking over or being paid back and, accordingly, set up paths to liquidating or otherwise monetizing the assets), we have been building up our IP and relationships with these firms and others in their respective industries – in other words, we have been building our arks while the sun has been shining such that we can benefit from the "convexity" that a suddenly changing market environment could create (or that a continued upward speculative market environment could create).

If even a fraction of these Great Rationalization storms come to pass (and even if they elapse in a fraction of the time relative to historical precedents), these will prove to have been valuable investments, as the "other side" will present myriad opportunities like non-performing loans, rescue financings, DIP loans, M&A financing, refinancing of loans, hard asset purchase and liquidations, and new borrowing (to name a few). And again, if they don't and things continue in the direction they have been, we can still reap that convexity as well.

In summary, we think the speculative excesses combined with the separate but related monetary and fiscal excesses are broadly going to be very bad for the world. At the same time, we are trying to navigate this environment in a way that will be good for our investors, both in protecting against the inevitable downside, but also in exposing ourselves to the upside opportunities that will inevitably result by assembling a diverse portfolio of opportunities with the proper level of compensation and a deep margin of safety, that are structured appropriately, steadfastly monitored, and where possible, include convexity in the potential outcome. We like to enter into investments with the confidence that even if things go poorly, we will still do well, but if they do really well, that is extra.

We hope you found this discussion useful, thank you for your support, and please let us know if we can be helpful in any way.

Best Regards,

Daniel Zwirn
CEO and CIO

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The information provided herein should not be considered a recommendation regarding a particular investment. The actual and potential investments discussed herein are meant to be examples of Arena's investment approach. It should not be assumed that any of the investments discussed herein will prove to be profitable, or that the investment recommendations or decisions made by Arena in the future will be profitable. A full list of all recommendations made by Arena during the preceding year is available upon request. The particular investments discussed herein are those that most closely represent the current average-sized Arena investment in a particular category (Corporate Private Credit, Real Estate Private Credit, Commercial and Industrial Assets, Structured Finance and Consumer Assets).

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